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ABSTRACT

This paper is based on the results of the study of the Work Group of Bibliographic Standards for the Greek union catalog, the first stage of Greek academic library union catalog development. The first section lists the objectives of the union catalog. The state of the art of Greek academic libraries is discussed in the second section. The lack of uniformity is identified as the main difficulty in setting up the union catalog. The next section addresses implementation models, and the fourth section describes two implementation phases (i.e., formation/homogeneity of the primary database and function/updating of the union catalog). Specifications required for the union catalog system are summarized in the fifth section, including records format, quality control of records, multiple records identification, and the data model. The sixth section considers standardization, including bibliographic standards, authorization of names and subjects, holdings information, and interlibrary loan. The importance of education and training of library staff is noted in the seventh section, followed by a section that discusses the administration scheme. The ninth section outlines project phases. A concluding section lists expected project results. (Contains 26 references.) (MES)

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# THE IMPLEMENTATION OF THE GREEK UNION CATALOG

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## Introduction

This presentation is based on the results of the study of the Work Group of Bibliographic standards for the Greek Union catalog. This is a project financed by the European Union which aims among others to the electronic networking of Greek Academic Libraries and to the establishment of infrastructure for the implementation of the Union catalog in Greece. The study which is the first stage of the Union catalog development, was entrusted by the Project Steering Board consisting of the representatives of all participating libraries. The study was introduced to the same Board and was passed. The work group decided that it was necessary to be advised by experts, so they had meetings with 3 persons, one from Europe and two from USA, who are experienced to the Union Catalogs setting up and implementation.

## 1. The objectives of the Union catalog

The union catalog, at the early stage is the result of group efforts on cataloguing of many different organizations. At the following stage Union catalog provide users with the ability to perform consistent searching of records from multiple institutions in the sense that these records are indexed consistently. The goals of the union catalog are:

- Cataloguing most cost effectively,
- Increase the supply of quality records, both bibliographic and authority ones,
- Develop and maintain mutually acceptable standards,
- Increase the access and sharing of the bibliographic and authority databases of the participant libraries,
- Development of an interlibrary loan with real access to the collection material and document delivery system,
- Development of joint collections, printed and mainly, electronic ones,
- Links to document suppliers and electronic journals,
- Use of shared resources,
- Ongoing discussion, planning and programming among participant libraries,
- The production of the National Bibliography in electronic form.

In a few words, the union catalog is a shared bibliographic database of all items in Greek libraries and their location, and it was to be a common network linking all libraries to one another, offering shared functions for interlending services, shared cataloguing and access to foreign databases.

## 2. The state of the art of Greek Academic Libraries

The current state of Greek Academic Libraries shows some oddities which can be summed up in the following brief analysis:

- Lack of a coordinating body and cooperation mechanisms. So there aren't collective common decisions for the implementation of common accepted standards. National Library is not able up to the moment to undertake the substantial leading role in the Libraries community.
- Variety of automated systems. The automation of the libraries was accomplished relatively with great delay of these of European Union countries and was the result of individual efforts. As a

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consequence, the chosen library softwares have different potentials, use different MARC formats and supports either all or a part of an online system modules.
- Cataloguing rules. The general standard used for cataloguing is the Anglo American Cataloguing Rules". The level of the implementation and the rules interpretation doesn't appear any consistency, since it has not been agreed or dictated by a national decision making committee.
- The use of standards related to bibliographic records is neither spread nor standardized. The Bibliographic records of non-greek material are purchased by foreign organizations. The cataloguing of greek material is accomplished individually by each library.

Uniformity problems cause the main difficulty to the setting up the union calalog. These problems are listed below:

The interpretation of cataloguing rules and the using sources,
The level and the quality of cataloguing,
The lack of standardization on holdings entries,
The language of the field of notes for non-greek material,
The use of names, corporate bodies and geographical terms.

- Authority records: subjects and names *Subjects*
The Academic libraries had to face the subject analysis of material without authoritative greek schedules. As a result we have the following formation:
  - **Foreign language material**: Language of subject Analysis: English: Source,Library of Congress Subject Headings.
  - **Foreign language material**: Language of subject Analysis: Greek: Source, National library and individual translation of the Library of Congress Subject Headings.
  - **Greek language material**: Language of subject Analysis: Greek: Source, National library and individual translation of the Library of Congress Subject Headings.
  - **Greek language material**: Language of subject Analysis: English: Source,Library of Congress Subject Headings.
  - **Greek language material**: Language of subject Analalysis: English and Greek: Source: Library of Congress Subject Headings, National library and individual translation of the Library of Congress Subject Headings.

*Names*
The name authority files of Library of Congress are used mainly for the authorization of foreign language names. For the greek names there is a variety of sources that are used, since the authority files of the National library are deficient and they can't be crossed with bibliographic records.
  - MARC Format. Two MARC formats are used: UNIMARC ?a? USMARC. Due to recent technological evolutions, this difficulty can be overleapt.
  - Collaborations and networks. Since early sixties the greek library community has seeked forms of collaboration and the creation of the ptinted union catalog. Due of the lack of coordinator and funds, these goals were never achieved. Nevertheless, the following evolutions are noticeable:
    1. The union catalogue of periodicals which is established by the National Documentation Centre, is an official form of collaboration for the interlibrary loan.
    2. A networl' of archaeological libraries is in progress.

**3. Implementation models**

A Union catalog is presented to its users as a high-quality management information access system. This means that the system should meet standards for reasonably rapid and predictable response time, high availability and reliability, and good communication about outages; and the user should expect its behavior to be highly repeatable from session to session. There are two options of the organization of the catalog: the central and distributed one. The above referred situation of the Greek libraries persuades us to lean towards the central administration scheme because it offers:

- stable collection,
- basic, centrally managed tools for cataloguing,

- possibilities for off-line pre-processing of records during loading of data,
- consistent index generation,
- single search engine with dependable mapping of search keys to indexes, high level of repeatability,
- central control of quality and performance. [1]

Two basic models of implementation can be applied for the creation of a union catalogue:

1. Master Union Catalog. The participating institutions catalogue their material to the central database and then load to the local databases the new or modified records.
2. Slave Union Catalog. The participating institutions catalogue their material at first locally and then load the new or modified records to the central database.
   It is obvious that the appropriate model for Greek union catalogue is the Slave one, but the administrative system of the union catalogue could at the same time play the role of the master union catalogue in order to support smaller libraries without local automated systems.

**4. Implementation phases**

In order to be achieved the function of an online union catalogue, the implementation defines two phases:

***4.1 Formation and homogeneity of primary database***

The first phase demands the loading of the existing local bibliographic records in the central database, regardless their quality (description level, cataloguing practices), and their elaboration, that is uniformity, identification control and merging of multiple records, as well as authority files development.

***4.2 Function and updating of the union catalogue***

The second phase demands the standardization of cataloguing practices and bibliographic entries, the standardization of the procedure of practical updating of the union catalogue. The standardization will derive by the collaboration of all the participants and the experince obtained by the first phase of implementation.
These phases don´t function as separate, distinguished and successive stages. They simply orientate the elaborations which are necessary to be done by both central and local organizations.

**5. Specifications, required for the Union catalog system**

For the realisation of the central Union Catalog, a software and tools are needed, either a new development or a pre-existing one. Detailed requirement specifications will be produced for a call for tender with identification of the priorities of the requirements. Anyway, the work group of bibliographic standards noticed that, as the status of the Greek libraries is somehow confused, the group feels obliged to notice emphatically some points, which according to its opinion are significant.

*Records Format* The majority of bibliographic and authority records at the existing local systems have created or can be exported in :

a. UNIMARC (Bibliographic êáé Authorities)
b. USMARC (Format for Bibliographic Data êáé Format for Authority Data)

It is then required, the union catalogue automated system to support import and export data in USMARC and UNIMARC, regardless the internal format it supports. It is also required the ability for management of both MARC formats or the dynamic conversion from a format to another.
The local systems should support import and export data in one of these formats.

*Quality control of records*

The system ought to support error control on content designators level and data, before the records confirmation. It is also necessary the use of normalization schemes regarding to discrete points and punctuation points.

*Multiple records identification*
It should be developed or improved an algorithm of tracing multiple records in order to match to the particularities of local bibliographic data, because of:

a) lack of control number (ISBN, LCCN)
b) inconsequence of the forms of headings (names, subjects, etc)

*The data model*
There is a need for definition of the content and structure of the database as well as the relationships between bibliographic data, authority files, abstracts and full-text.
Three are the methods of dealing multiple records:

a) A record is chosen to be the master record, and the rest are deleted.
b) All the records are mainted and are grouped under one master record.
c) A record is chosen to be the master record, but the fields which appear differentiations from the respectives of the main entry are summed up to it. [2]
In the case of the Greek Union catalogue the second method is recomended. The criteria of choice of the master record should be the cataloguing level and the enter time.

**6. Standardization**

The procedure of creation and updating of a central bibliographic database requires standardization not only in general terms but even in the dynamic and continuous interpretation of rules and the adjustment of these standards and rules. The list of standards which the union catalogue should be used is long, but its´ also further than this proposal. These standards are registered as appendix to the study. Here briefly are referred:

- bibliographic standards,
- technical standards (communication protocols, standards for the retrieval at the central system, standards for export and import of bibliographic data).

***Bibliographic standards***

- Cataloguing rules
  The Greek translation of the Anglo-American Cataloguing Rules, 2nd ed., 1988 rev. (AACR2) is suggested to be used. [3]
  A Standing Committee of Cataloguing constituted catalogers of participant libraries, is going to take decisions on rules interpretation and the consistency of their use.

- Core record
  In order efforts of collaborating cataloguing to be facilitated on national and international level, the trend of simplification of cataloguing rules is spread worldwide. Nevertheless, the needs of the catalogues users for quality records and stable form of the accessing points (authority control) are not overlooked. So, a new level of bibliographic record was created, which provide accurate identification and retrieval of bibliographic records. It is a less than a full standard record but more than the minimal level standard record. [4]

***Authorization of Names and Subjects***

Updating to the greek and foreign sources which consist the reference tools by subject for the name and subject authorization. Union catalogue is proposed to fill the gap of national authority files via the collaborative procedure and collective responsibility.
To the creation of the name authority files more institutes could participate in a common accepted basis,

without central control. There is also the possibility of the automatically creation of authority entries, in a minimal level, either locally or centrally and the possibility of the automatically proposed authority entries. [5]
At the second phase the local systems have to be consulted by the central authority records before authorizing locally a term. The new authority records:

a) will be created locally according to the above mentioned standards and sources as well as the practices which will be developed and submitted to the central file. The presupposition needed is the ability of library' s system to support the authority's creation and staff trained in authorization procedures.

Or

b) will be created centrally after the suggestion of the individual library.
The creation of authority subject headings in a consistent connecting structure requires central control or at least superintedence. The authorization of serials is a special topic because of the problems they appear, as the definition of the multi-volume document, the serialty of many kinds of documents and the different approach of every format, UNIMARC and USMARC for authority records. [6]

***Holdings***

Information on holdings are decided as essential because the union catalogue is intended to support shared collection policy, ILL and document delivery facilities. In order to take advantage of relationships among libraries, it is essential to reorient collection development.
Cooperative collection building must become more than just a myth; libraries need to embrace a plan to collectively meet the needs of their users. Librarians should move past thinking in terms of "my patrons" and begin develop a shared vision around meeting the needs of "our patrons". There is need right now to address this issue locally, regionally and nationally. Collection building needs to incorporate consortial, regional and national efforts to build comprehensive holdings collectively with a commitment to provide access. [7]
The holdings description is not satisfactorily developed up to the moment, as UNIMARC, in opposition to USMARC, neither supports a separate specialized format for this data nor includes special fields in bibliographic record but allows the usage of 9xx fields for local informations.
It is strongly recommended to participants to apply the The ISO 10324 standard to local automated systems. The union catalogue should have the ability of holdings management either they are included in the bibliographic record or they consist a separate entry of local information.

***Interlibrary Loan***

The union catalogue, during the first phase of implementation, has to support ILL requirements for books by e-mail or fax. The bibliographic informations of ILL applications must be compatible to **ISO 8459-1**.
At the next phases the system is going to support the ILL requirements directly from users to participant libaries, as well as the application of ISO ILL protocols.

**7. Education and training**

The continuing education and training of the staff of the university libraries is the necessary tool for the implementation of the union catalogue. The most important fields on education are:

- Principles and practices of collaborative collection development
- Electronic exchange of bibliographic data
- The authorization of names and subjects
- Authorization of subject headings and references
- MARC authority
- Core record

- User support and training
- Continuing education on topics relative in every stage of the implementation of the union catalogue
- Library management

**8. Administration scheme**

For the development, management and implementation of the Union Catalogue it is necessary a consortium to be established. It will be a non-profit organization which Academic libraries and National library are going to participate firstly in. It will be directed by a project manager with proven experience in managing complex projects, and also knowledge of the issues of library cooperation and union catalog implementation. An annual fee is paid by every institution to the Consortium for the functional expenses of the Union Catalogue. There will be a charge on a use basis per research. The consortium will be able to produce and dispose bibliographic subject material in printed or electronic form.
The Project Steering Board consisting of representatives of all participating libraries allready exists and has appointed an Executive Group of its members. The manager will be referred to the Executive Group which members are coming from Academic institutions-members of the consortium.
Standing work groups consisted by experts in various specialized areas from the participating institutions and libraries, will elaborate the topics relevant to the investigation, evaluation, implementation, standardization and adoption of rules and procedures.
It is obvious that the remained Greek libraries, research and public, will participate in Consortium in a later phase.

**9. Project phasing**

The carrying out of the project includes five actions which correspond the five basic subjects of it and its management.

1. Management of the project
1.1 Setting up of the Consortium of Academic Libraries.
1.2 Organization of the department for Research and Statistics on Academic Libraries.
1.3 Project management team, consisting of a full-time project manager, supported by a deputy and secretariat.
2. Union Catalog of Academic libraries
2.1 Study and analysis of existing library automation systems and networking
2.2 Drawing up of specifications of the system
2.3 Analysis of a sample of Bibliographic data of each library
2.4 Development of software and hardware specifications for the Union Catalogue
2.5 Purchase, maintenance and amortization of hardware and software
2.6 Cataloguing standardization
2.7 Study of the process of authority files of names and subjects with a narrow pilot application
2.8 Pilot application
2.9 Suppy, installation and disposition of Bibliographic support tools
2.10 Running system
3. Training of libraries staff
4. Rational use of the Scientific periodicals collections of Academic Libraries
5. Creation of a distributed electronic unit of gray literature

**Conclusion**

After the project's completion a significant quality step will be achieved of the area of Greek Academic libraries infrastructure, at the means and feasibility of accessing and researching bibliographic data and librarians training and education. At the same time, this will be the starting point of a continuously concurrent and renewable, according to the international developments, system. Indicatively, the following results are mentioned:

1. The academic and research community will obtain an important efficient and significantly

useful tool, that is the ability of concurrent access to bibliographic data, regardless of its location and form.
2. The academic and research community will be able to classify, search and generally access to the available by the libraries knowledge, in a uniform way on national range, as well as to loan through the ILL the desirable material, regardless the form or the geographical distribution.
3. The above will result the creation of significant infrastructure and the feasibility of the Research and Development Projects in Greece, which meets a great deal of problems due to the lack of network connection and other problems libraries face.
4. At the same time, there will be great quality and quantity access to knowledge for the academic personnel and researchers of every stage.
5. There will be more efficient management of financing sources of libraries, as the shared collections would avoid coverings by increase on ILL.
6. There will also be better exloitation of manpower and their use for new services by reduction of double work of cataloguing and increase of productivity.

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